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EXAMINER

SIDDIQI, MOHAMMAD A

ART UNIT PAPER NUMBER

2154

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/633,970

Applicant(s)

DAVIDSON ET AL.

Examiner

Mohammad A. Siddiqi

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

PD

DETAILED ACTION

1. Claims 1-12, and 14-37 are presented for examination. Claim 13 has been cancelled. Claims 31-37 are new.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/08/2005 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12, and 14-37 rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (Totally ordered gigabit multicasting, By X Chen, L E. Moser, and P M Melliar-Smith, published by The institution of Electrical Engineers and IOP Publishing Ltd., 1997, Received on 15 May 1996) (hereinafter Chen) in view of Finan et al. (6,718,139) (hereinafter Finan).

5. As per claim 1, Chen discloses a method for controlling call signaling message flow through a signaling node when a signaling link fails, the method comprising:

within a signaling node:

(c) determining whether a linkset associated with the second signaling link is on-hold (In use, fig 6, page 234), and, in response to determining that the linkset is on-hold, storing the first call signaling message in a memory buffer (page 233, fig 5) associated with the first communication module (pages 233-234);

(d) determining when the linkset becomes off-hold (Available, fig 6, page 234); and, in response, transmitting a ticket voucher request message (buffer reservation strategy, pages 232-233) from the first communication module to a plurality of second communication modules (fig 6, pages 233-234);

(e) issuing ticket voucher grants (buffer reservation strategy, pages 232-233) at a rate based on available outbound signaling link bandwidth (QoS, page 229, pages 240 –241, fig 18-19) in response to ticket voucher requests (introduction, page 230; pages 232-234, buffer reservation strategy);

(f) in response to transmitting the request message receiving a one of the ticket voucher grants indicating that one of the plurality of second communication modules is capable of transmitting the first call signaling message over an outbound signaling link (network node queues, fig 8, 233-235); and

(g) in response to receiving the grant, routing the first call signaling message to one of the second communication modules based on address information in the call signaling message (fig4; fig 9, pages 235-236).

Chen does not explicitly disclose (a) receiving a first call signaling message at a first communication module associated with the a first signaling link; (b) determining a second signaling link to which the first call signaling message should be routed for outbound transmission based on address information in the first call signaling message. However, Finan discloses (a) receiving a first call signaling message at a first communication module associated with the a first signaling link (104-4, 106, fig 1, col 2, lines 45-60); (b) determining a second signaling link to which

the first call signaling message should be routed for outbound transmission based on address information in the first call signaling message (link multiplexer forward the call to next segment of the fiber, 100, fig 1, col 2, lines 45-60); buffering based on available outbound signaling link bandwidth (elements of gig 5, col 5, lines 9-60). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Chen and Finan. The motivation would have been to implement a buffer reservation strategy for total ordering of the message (see abstract).

6. As per claim 2, the claim is rejected for the same reasons as claim 1, above. In addition Chen discloses transmitting a ticket voucher request message includes specifying a group number in the ticket voucher request message of communication modules capable of routing the first call signaling message to external nodes (fig 4, page 233).

7. As per claim 3, the claim is rejected for the same reasons as claim 1, above. In addition Chen discloses transmitting a ticket voucher request message includes addressing the ticket voucher request message to the first communication module (buffer reservation strategy, fig 4, pages 232-233).

8. As per claim 4, the claim is rejected for the same reasons as claim 1, above. In addition Chen discloses starting a sequence timer in response to failure of the second signaling link, and wherein determining whether the linkset is off-hold_includes determining whether the sequence timer has expired (buffer reservation strategy, fig 4, pages 232-233).

9. As per claim 5, the claim is rejected for the same reasons as claim 1, above. In addition Chen discloses determining a signaling link to which the first call signaling message should be routed includes determining the signaling link based on message transfer part (MTP) information in the first call signaling message (buffer reservation strategy, fig 4, pages 232-233).

10. As per claim 6, the claim is rejected for the same reasons as claim 1, above. In addition Chen discloses the MTP information includes the signaling link selection (SLS) code and the destination point code (DPC) in the first call signaling message (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233).

11. As per claim 7, the claim is rejected for the same reasons as claim 1, above. In addition Chen discloses

- (a) receiving, at a first communication module, a plurality of ticket voucher request messages transmitted from a second communication module (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233);
- (b) determining whether each ticket voucher request message is intended for the first communication module (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233); and
- (c) in response to determining that each ticket voucher request message is intended for the first communication module (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233), issuing ticket voucher grants at a rate based on available outbound (QoS, page 229, pages 240 –241, fig 18-19) signaling link bandwidth (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233).

12. As per claim 8, the claim is rejected for the same reasons as claims 1 and 7, above. In addition Chen discloses issuing the ticket voucher grants includes sending each_ticket voucher grant message to the second communication module via an interprocessor message transport bus (Network node queues, fig 5, pages 233-234).

13. As per claim 9, the claim is rejected for the same reasons as claims 1 and 7, above. In addition Chen discloses sending each ticket voucher grant

message includes altering a request/grant bandwidth (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233) indicator field in each ticket voucher request message and forwarding each_modified ticket voucher request message over the IMT bus (Network node queues, fig 5, pages 233-234).

14. As per claim 10, the claim is rejected for the same reasons as claims 1 and 7, above. In addition Chen discloses determining whether each ticket voucher request message is intended for the first communication module includes determining whether each ticket voucher request message is addressed to the group of the first communication module bandwidth (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233), and in response to determining that the ticket voucher request message is not addressed to the group of the first communication module, forwarding each ticket voucher request message over an interprocessor message transport (IMT) bus (Network node queues, fig 5, pages 233-234).

15. As per claim 11, the claim is rejected for the same reasons as claims 1 and 7, above. In addition Chen discloses comprising in response to determining that each ticket voucher request message is addressed to the group of the first communication module (packet and control frame; buffer

reservation strategy, fig 3-4, pages 232-233), determining whether each request has been granted, and, in response to determining that each request has been granted, forwarding each ticket voucher request message over the IMT bus (Network node queues, fig 5, pages 233-234).

16. As per claim 12, the claim is rejected for the same reasons as claims 1-6 above.

17. As per claim 14, the claim is rejected for the same reasons as claims 1 and 12, above. In addition Chen discloses receiving one of the ticket voucher grant messages (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233);

(b) determining whether the ticket voucher grant message is from a card associated with the linkset (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233); and

(c) in response to determining that the grant message is not from a card associated with the linkset, ignoring the ticket voucher grant message (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233; fig 9).

18. As per claim 15, the claim is rejected for the same reasons as claims 1 and 12, above. In addition Chen discloses in response to determining that the ticket voucher grant message is from a card associated with the linkset (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233), sending the call signaling message to an outbound signaling link (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233).

19. As per claim 16, the claim is rejected for the same reasons as claim 1, above.

20. As per claim 17, the claim is rejected for the same reasons as claims 1 and 16, above. In addition Chen discloses issuing ticket voucher grant messages at a rate based on available outbound signaling link bandwidth includes dividing an available time slot for sending messages into predetermined time intervals and issuing a predetermined number of ticket voucher grants during each time interval (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233).

21. As per claim 18, the claim is rejected for the same reasons as claims 1 and 7, above.

22. As per claim 19, the claim is rejected for the same reasons as claims 1 and 18, above. In addition Chen discloses the first communication module includes a ticket voucher request generator/grant processor for issuing the ticket voucher request messages and processing the ticket voucher grants (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233).

23. As per claim 20, the claim is rejected for the same reasons as claims 1 and 18, above. In addition Chen discloses wherein each of the second communication modules includes a ticket voucher request processor/grant manager for receiving the ticket voucher request messages and issuing the ticket voucher grants (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233).

24. As per claim 21, the claim is rejected for the same reasons as claims 1 and 18, above. In addition Chen discloses the first communication module includes a ticket voucher queue for storing the call signaling messages until the ticket voucher grants are received (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-234, fig 9).

25. As per claim 22, the claim is rejected for the same reasons as claims 1 and 17, above. In addition Chen discloses first communication module is adapted to send the ticket voucher request messages only in response to determining that a linkset to which the enqueued messages are addressed is off- hold (In use, fig 6, pages 233-234).

26. As per claim 23, the claim is rejected for the same reasons as claims 1 and 17, above. In addition Chen discloses each of the second communication modules includes a grant timer for spacing issuance of the ticket voucher grants over a predetermined time interval (packet and control frame; buffer reservation strategy, fig 3-4, pages 232-233).

27. As per claim 24, the claim is rejected for the same reasons as claims 1 and 7, above

28. As per claim 25, the claim is rejected for the same reasons as claims 1 and 24, above. In addition Chen discloses third communication module is adapted to apply a burst management algorithm when issuing the ticket voucher grant messages (packet and control frame; buffer reservation strategy, fig 3-4, pages 229-233).

29. As per claim 26, the claim is rejected for the same reasons as claim 1, above.

30. As per claim 27, the claim is rejected for the same reasons as claims 1 and 26, above. In addition Finan discloses receiving call-signaling messages from an inbound signaling link includes receiving call signaling messages from a service switching point (SSP) (col 2, lines 52-67).

31. As per claim 28, the claim is rejected for the same reasons as claims 1 and 26, above. In addition Finan discloses receiving call signaling messages from an inbound signaling link includes receiving call signaling messages from a signal transfer point (STP) (col 2, lines 52-67)

32. As per claim 29, the claim is rejected for the same reasons as claims 1 and 26, above. In addition Finan discloses receiving call-signaling messages from an inbound signaling link includes receiving call signaling messages from a service control point (SCP) (fig 1, col 5, lines 25-41).

33. As per claim 30, the claim is rejected for the same reasons as claims 1 and 26, above. In addition Finan discloses receiving call signaling messages

from an inbound signaling link includes receiving call signaling messages from a media gateway controller (MGC) (100 fig 1, col 2, lines 52-67).

34. As per claim 31, the claim is rejected for the same reasons as claim 1, above. In addition Chen discloses the ticket voucher request message is separate from the first call signaling message (Buffer reservation strategy, page 232).

35. As per claim 32, the claim is rejected for the same reasons as claim 7, above. In addition Chen discloses plurality of ticket voucher request messages is separate from call signaling messages transmitted from the second communication module (Buffer reservation strategy, page 232).

36. As per claim 33, the claim is rejected for the same reasons as claim 7, above. In addition Chen discloses the plurality of ticket voucher request messages is separate from the plurality of call signaling messages (page 232).

37. As per claim 34, the claim is rejected for the same reasons as claim 16, above. In addition Chen discloses the plurality of call signaling

messages are separate from the ticket voucher request messages (page 232).

38. As per claim 35, the claim is rejected for the same reasons as claim 18, above. In addition Chen discloses the ticket voucher request messages are separate from the messages present in the ticket voucher queue (pages 232 -233).

39. As per claim 36, the claim is rejected for the same reasons as claim 24, above. In addition Chen discloses the ticket voucher request messages are separate from the call signaling messages (page 232).

40. As per claim 37, the claim is rejected for the same reasons as claim 26, above. In addition Chen discloses the ticket voucher request messages are separate from the call signaling messages (page 232).

Conclusion

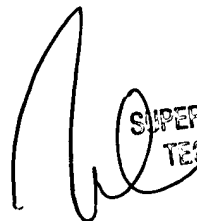
41. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad A. Siddiqi whose

telephone number is (571) 272-3976. The examiner can normally be reached on Monday -Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAS

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